Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
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Use of Spectrum Bands Above 24 GHz For Mobile Radio Services	)	GN Docket No. 14-177
	)	
	)	
Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 To Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services	)	WT Docket No. 10-112

COMMENTS OF AT&T SERVICES, INC.

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I. INTRODUCTION AND SUMMARY

AT&T Services, Inc., on behalf of the subsidiaries and affiliates of AT&T Inc. (collectively, "AT&T"), hereby submits the following comments in response to the Federal Communications Commission's ("Commission" or "FCC") Third Further Notice of Proposed Rulemaking in the above-captioned proceeding.[1] The continued commitment to, and prioritization of, the allocation and auction of millimeter wave ("mmWave") spectrum in support of 5G is vital to the national interest and to the ability of the United States to continue to lead the world in mobile broadband services. AT&T commends the Commission on the substantial progress the agency has made towards making available for flexible use the 24 GHz, 28 GHz, 37.6-40 GHz, and 47.2-48.2 GHz bands. And with this *Third FNPRM*, the Commission is continuing its laudable work by proposing similar progress regarding the 42-42.5 GHz band, 37-

[1] *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, GN Docket No. 14-177, WT Docket No. 10-112, Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, FCC 18-73 (June 8, 2018) ("*Third FNPRM*").

37.6 GHz band, the 26 GHz band (the spectrum between the upper 24 GHz band at 25.25 GHz and the lower edge of the 28 GHz band at 28.5 GHz), and the 50.4-51.4 GHz band. AT&T supports the Commission's rapid cadence of rulings to open new bands for flexible use, and its comments below are largely to ensure that the Commission allocates and adopts a regulatory framework for these bands that will optimize the incentive and ability of carriers to rapidly develop and deploy vital new high-speed, high-capacity mobile broadband networks and services (such as 5G) for the American public, and to ensure the consistent application of rules between Upper Microwave Flexible Use Service ("UMFUS") bands.

In particular, AT&T supports:

- Reallocation of the 42-42.5 GHz band in a manner consistent with other UMFUS bands. The 42-42.5 GHz band should be licensed for exclusive, non-Federal flexible use utilizing 100 MHz channels configured into Partial Economic Area ("PEA") geographic markets. The operational rules should parallel, to the extent possible, the existing regulations for the near-adjacent 37.6-40 GHz band. Under no circumstances, however, should the FCC auction licenses where Federal rights, if any, have not been clearly delineated in advance.

- Pursuit of a regulatory regime for shared use of 37-37.6 GHz that balances investment incentives while guarding against speculation and warehousing. The sharing regime should also treat all users similarly, whether Federal or non-Federal. In this regard, the Commission's proposal for site-cluster authorizations shows promise, but requires additional clarification as to how the site-cluster licenses would function in practice. AT&T applauds the Commission's efforts to move forward with a shared use structure.

- Limitations on the post-auction expansion of Federal exclusion zones in the licensed 37.6-40 GHz band to avoid uncertainty regarding the scope of auctioned rights. While AT&T supports co-primary sharing between Federal and non-Federal uses, it is unreasonable to expect commercial licensees to deploy licensed frequencies to the maximum public benefit if the Commission does not also clearly define Federal rights. Federal users have numerous options to secure spectrum for future use, and if the Commission creates nebulous future Federal rights in this band it will dampen investment.

- Allocation of the 26 GHz for flexible mobile and fixed use under the UMFUS rules. As the Commission has observed, this key band has been prioritized internationally and bridges the 24 GHz and 28 GHz bands, creating the potential for a large contiguous allocation of spectrum capable of serving critical 5G needs.

> Indeed, this is a unique opportunity to create an allocation that leverages existing international developments for the benefit of the American public. As such, the Commission should reject calls by Elefante and others for different, speculative uses.

By adopting these and other proposals, the Commission will maximize the potential of these bands to support important millimeter wave 5G use cases and promote U.S. leadership in this critically important market.

II. THE COMMISSION SHOULD REALLOCATE THE 42-42.5 GHz BAND FOR LICENSED TERRESTRIAL MOBILE BROADBAND SERVICES UNDER REGULATIONS CONSISTENT WITH OTHER UMFUS BANDS

AT&T largely concurs with the proposal in the *Third FNPRM* that the 42-42.5 GHz band should be allocated for terrestrial mobile broadband services under a regulatory framework that parallels other UMFUS allocations.[2] Specifically, the Commission should allocate the band for exclusive commercial licensed use and refrain from authorizing any Federal use in the band, whether mobile or fixed. AT&T also agrees with the Commission's proposal in the *Third FNPRM* that the band be channelized into five 100 MHz licenses and authorizations issued through competitive bidding on a PEA basis. By adhering to the framework established for existing UMFUS bands, the Commission will foster consistency, familiarity, and efficiency in the rollout of 5G services.

As an initial matter, the Commission should find that the 42-42.5 GHz band is suitable and available for commercial mobile broadband services and allocate the band for that purpose. AT&T has consistently supported reallocation of this band for commercial mobile broadband for precisely the reasons cited by the Commission: "The ability to use this band together with the existing 37 GHz and 39 GHz bands, the international consideration of this band for mobile use,

[2] *Id.* at ¶49.

and the availability of 500 megahertz of unassigned spectrum all support our conclusion that this band is suitable for flexible use."[3] As noted by CTIA and a variety of manufacturers, the 42-42.5 GHz band is being considered within the ITU for standardization as a mobile broadband allocation globally.[4] Not only would allocation for such purposes domestically allow lower cost deployments that leverage global economies of scale, but the early allocation of the 42-42.5 GHz band would also help ensure that U.S. companies are at the leading edge of development and commercialization of that band, thus continuing the U.S. leadership role in 5G. And, the potential to eventually access the band in the future using a single radio spanning both the 37-40 GHz band and the 42-42.5 GHz band would unlock further efficiencies leading to lower cost infrastructure and end user devices.

AT&T further believes that the 42-42.5 GHz band should be reallocated for exclusive *licensed* commercial mobile broadband use. The Commission notes that "[t]he MOBILE NOW Act, passed as part of the RAY BAUM'S Act of 2018 provides that, within two years of its enactment, the Commission shall publish an NPRM 'to consider service rules to authorize mobile or fixed terrestrial wireless operations, including for advanced mobile service operations,' in the 42 GHz band."[5] Given other massive unlicensed allocations that have been

[3] *Id.* at ¶52.

[4] *Id.* at ¶49 (*citing* CTIA FNPRM Comments at 12-13, n.34; Ericsson FNPRM Comments at 11; Samsung FNPRM Comments at 4; Intel FNPRM Reply Comments at 6).

[5] *Id.* at ¶48 (*citing* Consolidated Appropriations Act of 2018, Pub. L. No. 115-141, 132 Stat. 348, DIVISION P – Repack Airwaves Yielding Better Access for Users of Modern Services (RAY BAUM's) Act of 2018, Title VI Making Opportunities for Broadband Investment and Limiting Excessive and Needless Obstacles for Wireless (MOBILE NOW) Act, § 601, *et seq*. (2018)).

recently made available[6] and the priority—under Congressional directive—to emphasize "commercial wireless broadband service,"[7] the Commission should license the 42-42.5 GHz band on an exclusive, market area basis.

In this regard, the 42-42.5 GHz band should be allocated exclusively for non-Federal operations. In the *Third FNPRM*, the Commission has proposed to refresh the record on a 2016 proposal "to add Federal fixed and mobile allocations in this band and a framework under which both Federal and non-Federal operations could share."[8] At the present time, however, AT&T does not support a shared Federal/non-Federal allocation at 42-42.5 GHz. Federal users have not provided any documented need for access to the 42-42.5 GHz band. The priority from a national perspective should be the development of commercial 5G services in the band, and unspecified "sharing" could diminish investment and delay or impede deployment in the band. The Federal government already has co-primary sharing available in the 37-37.6 GHz band, yet it has made no real progress in defining Federal needs or developing a mechanism for sharing in that band. Nor has the Federal government documented why it requires access to additional spectrum beyond what is available in the 37-37.6 GHz band.

If the Commission determines—inadvisably—that Federal sharing is nonetheless warranted, under no circumstances should the Commission allow potential sharing to impact the timing of a 42-42.5 GHz auction or to create uncertainty regarding the scope of the rights being

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[6] *See, e.g.*, *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, 8062-66 ¶¶125-131 (2016) (providing 7 GHz for unlicensed use).

[7] MOBILE NOW Act, § 604(b)(1) (stating that the FCC shall "consider how the band . . . may be used to provide commercial wireless broadband service").

[8] *Third FNPRM* at ¶53.

auctioned. A key precept of economics is that precisely defining rights is key to private property-like markets. Thus, creating licenses that may be subject to ill-defined future encumbrances by Federal users will depress auction revenues and discourage investment due to uncertainty. Any auction of 42-42.5 GHz spectrum should specify, well in advance of bidding, any encumbrances or limitations on use, including very specific and delineated requirements with respect to the spectral and geographic rights accorded to any Federal use. Without very specifically defined rights, carriers and licensees will have less incentive to invest in spectrum and infrastructure, since that investment might be stranded if some future, presently unknown, Federal use gains priority over auctioned rights.

Presuming that licensee rights and obligations can be well-defined—and doing so should not be difficult—AT&T supports the Commission's proposal to adopt a regulatory scheme for 42-42.5 GHz that parallels other UMFUS allocations. AT&T concurs that licensing on a PEA geographic basis in five 100 megahertz blocks is "consistent with developing industry standards and would maximize spectral efficiency."[9] As the *Third FNPRM* notes, PEA licensing was supported by a majority of commenters[10] and is consistent with the license areas selected for the near-adjacent 37.6-40 GHz band.

The *Third FNPRM* also seeks comment on the protection of radio astronomy services ("RAS") in the 42-42.5 GHz band.[11] As noted in the *Third FNPRM*, many commenters, including AT&T, have taken the view that such concerns have been adequately addressed in the

[9] *Id.* at ¶57.

[10] *Id.* at ¶54.

[11] *Id.* at ¶55.

past through the use of exclusion zones and coordination zones.[12] While the Commission notes that it has not received any specific comments on the size of the exclusion or coordination zones that would be needed, AT&T believes that such technical obstacles can be overcome while permitting extensive commercial deployment, especially as most RAS installations are in remote or very rural areas and most commercial licensees have extensive experience in protecting RAS operations.

III. THE LOWER 37 BAND REGULATIONS SHOULD FACILITATE RAPID DEPLOYMENT WHILE PREVENTING THE WAREHOUSING OF SPECTRUM

AT&T supports the Commission's effort to "further develop the record regarding the coordination mechanism that we would expect to use . . . to facilitate shared use of the Lower 37 GHz band between Federal and non-Federal users, as well as among non-Federal users."[13] As an initial matter, AT&T believes that co-primary sharing between Federal and non-Federal users should be accomplished through the coordination/registration mechanism that is developed to ensure co-existence between users deployments generally, and that co-primary should mean, fundamentally, that *all* users access the band and receive protection via the same process. With equal treatment for all users, and given that the technical characteristics of the band will generally reduce the potential interactions between deployments, AT&T believes the sharing procedures should be minimal and not unduly burdened with complexity. The rules will,

[12] *See, e.g., Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, and Amendment of Part 74 of the Commission's Rules for Low Power Auxiliary Stations in the Repurposed 600 MHz Band and 600 MHz Duplex Gap*, Report and Order, 30 FCC Rcd 9551, 9631-49 ¶¶193-234 (2015).

[13] *Third FNPRM* at ¶55.

however, need to balance streamlining deployment without creating opportunities for spectrum warehousing.

Specifically, AT&T believes the Commission should leverage the relative simplicity of the sharing environment in the 37-37.6 GHz band to create a sharing mechanism that is well-understood and relatively easy to administer. Given the principle that future operations in the 37-37.6 GHz band be co-primary with Federal incumbents and implemented through the same process, the Commission can forego defining hierarchies of users. Furthermore, because of this band's relatively high propagation losses, there is less need for the Commission to adopt complex coexistence mechanisms. And, as there are relatively few Federal sites that will require protection, AT&T suggests the establishment of exclusion zones around these sites rather than more complicated-to-administer coordination zones. To further streamline this process, the Commission should adopt channel assignments for commercial users that are as static as possible. By taking these steps, the Commission will promote a 37 GHz sharing environment that promotes robust commercial use of spectrum with minimal disruption to Federal incumbents.

AT&T agrees with the FCC that some mechanism for point-to-multipoint systems is necessary, such as the site-cluster concept proposed in the *Third FNPRM*.[14] Presumably a site-cluster license would go beyond the coordination zones for simple base stations. Site-cluster registration, however, must carefully balance providing licensees with incentives to invest in infrastructure with measures to ensure that any "reservation" rights are not abused to warehouse spectrum. As AT&T understands the Commission's proposal, a successful applicant for a 37-37.6 site-cluster registration would receive a non-exclusive authorization covering a 5 km radius

[14] *Id.* at ¶¶72-73.

around a designated point within which they could deploy registered base stations that would not require individual base station licenses.[15] The *Third FNPRM*, however, emphasizes that the site-cluster license is non-exclusive, but does not explain the consequences if another site-cluster application were to be filed with an overlapping geographic area. To the extent that the site-cluster licenses are easily accessed and understandable, it seems reasonable to narrow the coordination burden for deployments under such licenses to any parties with overlapping licensed geographies. This could streamline the ability to deploy new facilities in beneficial ways. AT&T would favor site-cluster licenses that are user-defined polygons, however, because this approach would allow for more specific tailoring of regions to coverage plans, while recognizing that user-defined areas would need limits on size and build-out rules to be workable.

In a related vein, the Commission has requested comment on the relevant construction periods for site-cluster authorizations—both the timing for which at least some facilities under a site-cluster license must be constructed and the period for which a site-cluster license would remain valid. AT&T suggests that site-cluster licenses should remain valid as long as the licensee is able to maintain facilities under the site-cluster license that meet some minimal build-out requirement based on percentage of POPs or area. Tying coverage to a percentage of the site-cluster polygon would thus encourage applicants to self-define polygons of reasonable size. Licensees should receive protection for all facilities deployed under a site cluster license, but protection should also be conditioned on maintaining active use of the facility. Towards that end, AT&T suggests that each site register a "heartbeat" to the coordinator on a relatively short periodic basis (*e.g.*, weekly) to remain within the protected site database.

[15] *Id.* at ¶72.

With these proposals, AT&T believes the Commission could rapidly implement a shared licensing structure that permits legitimate applicants significant flexibility to deploy and serve customer needs on an expedited basis. Importantly, given the proposal to treat all users equally, and with the shorter propagation distances involved, the coordination/registration database process would allow transparency and ensure interference-free operation without imposing undue transaction costs or delays.

IV. THE COMMISSION SHOULD NOT EXPAND FEDERAL PRECLUSION OR COORDINATION ZONES AFTER SPECTRUM IS LICENSED FOR COMMERCIAL OPERATIONS

The Commission has requested comment on potentially expanding the number of Federal sites that are protected pursuant to Section 30.205, an outcome that could significantly de-value the licensed spectrum in the 37.6-40 GHz band.[16] For the same reasons expressed above regarding future Federal use in the 42-42.5 GHz band, AT&T vehemently opposes granting any future rights to Federal users that could retroactively alter the value of spectrum acquired at auction.

If the Commission were to allow for open-ended Federal usage rights, the Commission would be creating the potential for new preclusion zones in the future, thus depriving licensees of the full rights acquired at auction. This uncertainty regarding the future scope of spectrum rights acquired at auction would significantly diminish both auction values and incentives to invest in infrastructure in the band. Such value-destroying uncertainty is also completely unnecessary in view of the significant legal and practical rights Federal users already have that could allow them

[16] *Id.* at ¶74. The proposal would also implicate the shared spectrum at 37-37.6 GHz. However, the potential for future Federal use of an already shared band raises different, and potentially more solvable, issues than unspecified future use of an auctioned band. Accordingly, AT&T's comments are targeted at the potential for increased, post-auction Federal use within the 37.6-40 GHz band.

to expand existing operations in the 37 GHz band. First, the Federal government has access to the specific sites designated under Section 30.205 of the Commission's rules. Second, because many Federal facilities are in remote or rural areas, Federal users could work cooperatively with commercial licensees, who should be accommodating in providing secondary market rights or leases to support Federal uses. This is even more true in the millimeter wave bands, where limited signal propagation means that Federal users could readily agree to confine signals to property that is Federally-owned, accommodating most Federal needs without impacting the areas in which commercial operations would seek to deploy. Indeed, Federal users have significant practical ability to control the use of RF devices on Federal property, including military bases, campuses, and Federal buildings. That pragmatic limit should make negotiating and coordinating Federal use with commercial licensees considerably easier, and the incentives to negotiate with Federal users could be enhanced if the Commission adopted policies either permitting licensees to count Federal construction in build-out showings or to subtract population in Federal lands from build-out showing requirements. Third, Federal users will presumably be able to acquire additional spectrum rights under shared licenses on a first-come, first-served basis in the 37-37.6 GHz band. It is unclear what uses the Federal government would contemplate in the 37.6-40 GHz band that could not be accommodated in shared spectrum at 37-37.6 GHz. Thus, given the range of use options available to Federal users, the only difficulties that are likely to arise would be post-auction Federal proposed use in high density areas that are not Federally owned—precisely the areas with the highest value to commercial licensees. Accordingly, the Commission should adopt—prior to the auction—rules that will provide certainty with respect to any federal spectrum rights, and certainty that license rights obtained at auction will remain free of federal sharing obligations.

V. AT&T SUPPORTS REALLOCATION OF THE 26 GHz BAND FOR EXCLUSIVE COMMERCIAL FLEXIBLE BROADBAND USE

As noted by the Commission, internationally there is increasing interest among regulatory authorities, manufacturers, and carriers in the standardization of the 26 GHz band for terrestrial mobile commercial broadband operation.[17] With the 24 and 28 GHz bands already allocated as UMFUS, the Commission has the opportunity to potentially provide a contiguous swath of spectrum extending from 24.75 GHz to 28.35 GHz—3.6 gigahertz—for commercial broadband. This would enable carriers to aggregate very large channels of virtually unprecedented size, allowing deployment of broadband wireless services with unparalleled speed and throughput.

Consequently, AT&T strongly supports the reallocation of the 26 GHz band for mobile and fixed broadband services. The *Third FNPRM* enumerates the potential benefits of reallocating the 26 GHz band given its potential to create a bridge between two existing allocations—"first, [the proposed allocation] . . . achieves manufacturing economies by covering several bands with a single radio; second, [it] . . . provide[s] international roaming capability in affordable user devices, and third, [it] . . . accelerate[s] the availability of equipment in newly authorized bands that share a tuning range with early deployed bands."[18] When coupled with the possibility of using the secondary market to aggregate bandwidths that were previously unthinkable, the band clearly should be an allocation priority for 5G services.

Because the spectral contiguity of the band—when combined with 24 and 28 GHz—is one of its most important characteristics, the regulatory regime for the 26 GHz band should

[17] *Id.* at ¶75 (noting "the European Conference of Postal and Telecommunications Administrations (CEPT) has adopted a preliminary determination to make the 24.25-27.5 GHz band a 'clear priority' for harmonization of 5G services throughout Europe and to promote it for worldwide harmonization at WRC-19").

[18] *Id.* at ¶77.

parallel, to the greatest degree possible, the existing UMFUS licensing constructs used for 24 GHz and 28 GHz. Specifically, the Commission should use market area licensing based on PEAs and 100 MHz channelization. It should also adopt license terms, build-out requirements, and renewal requirements similar to the 24 GHz and 28 GHz UMFUS bands. And, as with the 37-40 GHz and 42-42.5 GHz bands, Federal sharing should be managed in a way that provides definitive rights to auction licensees and does not result in the potential for arbitrary revocation of rights post-auction that would depress spectrum value or limit incentives to invest in infrastructure.

Importantly, the incumbent compatibility issues raised by a potential reallocation of the 26 GHz band to flexible fixed and mobile use do not seem insurmountable. As the Commission has said, studies have been conducted for both Space Research Service ("SRS") and Earth Exploration Satellite Service ("EESS") coordination, and the coordination zones appear both manageable and encompass mainly low population areas.[19] There is also significant work ongoing at the ITU to determine appropriate sharing parameters—the Commission cites to "ITU-R's Study Group 5 Task Group 5/1 (TG 5/1)[, which] has been conducting extensive studies to evaluate the potential for sharing and compatibility in that range between mobile and EESS, SRS, FS, FSS, and ISS."[20]

While existing incumbents thus appear to be compatible with a reallocation to flexible mobile and fixed services, the same is not true for certain other proposals. Specifically, the *Third FNPRM* discusses the potential use of the band for "High Altitude Platform Services" ("HAPS") and the related Elefante proposal for a "Stratospheric-Based Communications

[19] *Id.* at ¶81.

[20] *Id*.

Service" ("SBCS"). In so doing, however, the Commission recognizes that HAPS and SBCS are fundamentally incompatible with UMFUS use—"we invite comment on Elefante's conclusion that spectrum sharing between airborne platform services (*i.e.*, both HAPS and systems such as Elefante's that would operate at lower altitudes) and unaffiliated UMFUS operators would be infeasible."[21] Indeed, in its reply comment in the separate proceeding relating to Elefante's petition for rulemaking, Elefante essentially conceded that interference between unaffiliated UMFUS and SBCS would occur, and argued instead that the 26 GHz band was unnecessary for 5G.[22] Elefante did, however, agree that "the Commission should promptly proceed in a comprehensive fashion and consolidate consideration of rules for SBCS with issues contemporaneously raised in the Spectrum Frontiers proceeding."[23]

As AT&T has discussed, given the critical importance of the 26 GHz band to 5G services, the Commission should not proceed with either HAPS use of the band or Elefante's SBCS proposal. Incumbents in this band have already raised substantial concerns regarding the ability of SBCS to co-exist with existing services.[24] Elefante's position is that "26 GHz does not offer irreplaceable opportunities for the mobile industry,"[25] most notably because the

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[21] *Id.* at ¶87.

[22] Reply Comments of Elefante Group, Inc., RM-11809 (filed Aug. 15, 2018) ("*Elefante Reply*").

[23] *Id*. at 1-2.

[24] Opposition of CTIA, RM-11809 (filed July 11, 2018); Comments of the Fixed Wireless Communications Coalition, RM-11809 (filed July 11, 2018); Comments of Aeronet Global Communications Inc., RM-11809 (filed July 11, 2018); Opposition of T-Mobile USA, Inc., RM-11809 (filed July 11, 2018); Comments of SES Americom, Inc. and O3b Limited, RM-11809 (filed July 11, 2018); Comments of Audacy Corporation, RM-11809 (filed July 11, 2018); Opposition and Comments of the National Radio Astronomy Observatory, RM-11809 (filed July 11, 2018).

[25] *Elefante Reply* at 52.

Commission has made other bands available for UMFUS. However, a significant amount of the spectrum to which Elefante cites was already market-area licensed spectrum, and, in any event, comparing allocations made available to an entire industry via spectrum auctions cannot rationally be compared with dedicating 2.25 GHz in the 26 GHz band alone for the commercial use of a single entity. The FCC should reject any proposal to skirt normal licensing practices to the benefit of a single entity—if Elefante wants to pursue SBCS, it has the ability to participate in FCC auctions for that purpose.

VI. ADDITIONAL ISSUES RAISED IN THE *THIRD FNPRM* SHOULD BE RESOLVED IN A MANNER THAT BEST PROMOTES INVESTMENT IN 5G

A. FSS Rights In the 50.4-51.4 GHz Band Should Parallel Accommodations Reached for Other UMFUS Bands

AT&T concurs with the Commission that Fixed Satellite Service ("FSS") rights in the 50.4-51.4 GHz band should parallel those for the 24 GHz band. As stated in the *Third FNPRM*, although the 50.4-51.4 GHz band has been allocated for fixed and mobile services since 1998, the Commission in the Spectrum Frontiers proceeding has proposed that the entire 50.4-52.6 GHz band be made available for such services under UMFUS regulations. In response to these actions, the Commission "has received eight satellite applications or market access requests and twenty earth station applications seeking to use the existing FSS (Earth-to-space) allocation in the 50.4-51.4 GHz band for delivery of broadband services," as well as calls by the satellite industry to adopt new sharing regulations conferring greater rights on FSS licensees.[26]

Once again, FSS licensees are seeking to re-cut established regulations that were developed to provide "broader and . . . balanced"[27] sharing rights between terrestrial 5G and FSS

[26] *Third FNPRM* at ¶¶92-93.

[27] *Id.* at ¶¶92-93.

communities. No evidence has been provided that suggests the balance should be disturbed. The regulations generally adopted for the 24 GHz band considered the needs of satellite users and established ground rules that permitted extensive deployment of new FSS earth stations, but also allowed commercial development of the bands for 5G services. No basis has been articulated that should cause these rules to be revised or altered, and therefore the Commission should reject any modifications at this time.

B. The 42 GHz and 26 GHz Bands Should Be Treated Similarly to Other UMFUS Bands with Respect to Ownership Restrictions

AT&T supports the Commission's proposal that added UMFUS bands—42 GHz and 26 GHz—should be treated similarly to other UMFUS bands with respect to pre-auction aggregation limits or spectrum screens. While added spectrum made available under the UMFUS rules should be included as part of the input market for millimeter wave spectrum, and the 1/3rd rule applied to increase the secondary market mmWave spectrum screen, there is no basis for treating any new UMFUS bands differently from the 24 GHz, 28 GHz, 37.6-40 GHz, or 47 GHz spectrum. In particular, there is no justification for adopting any pre-auction limits on the aggregation of 26 GHz or 42 GHz spectrum. At most, auction acquisitions of 26 GHz and 42 GHz spectrum could be subject to post-auction case-by-case analyses if the spectrum screen is exceeded. As previously noted, one important aspect of this spectrum is the ability for carriers to aggregate large bandwidths in specific areas to provide the capability of offering high speed, high capacity services. Artificial limits that prevent the spectrum from being put to its highest valued use are therefore contrary to the public interest.

VII. CONCLUSION

AT&T supports the Commission's concerted efforts to rapidly move forward with Spectrum Frontiers' proposals that provide needed millimeter wave spectrum in support of 5G

services. AT&T urges the Commission to continue its determined drive to ensure that the industry is poised to deliver the fastest and most capable wireless broadband services to the American public and, in so doing, lead the world as 5G re-invents businesses, industries and social structures. The Commission has appropriately focused on regulations that balance investment and certainty with the rights of incumbents and other spectrum users. Consistent with that approach the Commission should consider the proposals herein as it presses forward with UMFUS allocations in the 26 GHz, 42 GHz, and 51 GHz bands and with refinements to the rules for the 37-40 GHz spectrum.

Respectfully Submitted,

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